

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of the Claims:

1. (Currently Amended) A method for detecting overlay errors, ~~the method comprising:~~
directing a primary electron beam to interact with an inspected object, wherein (i) the inspected object has a first feature formed on a first layer, a second feature formed on a second layer, and an intermediate layer positioned between the first layer and the second layer, and (ii) the second feature is buried under the first layer, ~~and affects a shape of an area of the first layer, but and does not overlap with the first feature and second feature are not overlapping, and~~ (iii) the area includes a protuberance positioned above the second feature and that is smaller than the first feature, said directing comprising propagating the primary electron beam along an optical axis, diverting the primary electrical beam to propagate along a secondary optical axis that is parallel to but spaced apart from the optical axis, and subsequently diverting the primary electron beam so as to again propagate along the optical axis;
detecting electrons reflected or scattered from the protuberance of the area of the first layer, wherein said electrons are scattered or reflected at angles less than eighty degrees with respect to a surface of the inspected object;
receiving detection signals from a first in-lens detector and a second in-lens detector, the second in-lens detector positioned to detect those of the electrons that pass through an aperture in the first in-lens detector; and
determining the overlay errors according to the detection signals.
2. (Cancelled)
3. (Previously Presented) The method of claim 1 wherein the step of directing further comprises directing electrons of the primary electron beam to interact with the second feature.
4. (Previously Presented) The method of claim 3 wherein the step of detecting comprises detecting electrons reflected or scattered from the second feature.

5. (Original) The method of claim 1 further comprising a preliminary step of charging the second feature.

6. (Currently Amended) A method for detecting overlay errors, comprising:

directing a primary electron beam to interact with ~~a first feature and a second feature~~ features of an inspected object, wherein (i) ~~said inspected object comprises an intermediate layer positioned between first and second layers, the first feature being formed on the first layer of the inspected object and the second feature being formed on the second layer of the object,~~ (ii) the first and second features are formed on the first and second layers, respectively, (iii) the second feature is and being buried under the first layer, but and does not overlap with the first feature and second feature are not overlapping, and (iv) the first layer includes a protuberance positioned above the second feature and that is smaller than the first feature, said directing comprising propagating the primary electron beam along an optical axis, diverting the primary electrical beam to propagate along a secondary optical axis that is parallel to but spaced apart from the optical axis, and subsequently diverting the primary electron beam so as to again propagate along the optical axis;

~~wherein an intermediate layer is positioned between the first and second layers and wherein the first feature is formed on a first layer of the inspected object and the second feature formed on a second layer of the object, the second feature is buried under the first layer, but the first feature and second feature are not overlapping;~~

detecting electrons reflected or scattered from the protuberance ~~first and second features~~, wherein said electrons are scattered or reflected at angles less than eighty degrees with respect to a surface of the inspected object;

receiving detection signals from a first in-lens detector and a second in-lens detector, the second in-lens detector positioned to detect those of the electrons that pass through an aperture in the first in-lens detector; and

determining the overlay errors according to the detection signals.

7. (Cancelled)

8. (Original) The method of claim 6 wherein the second feature affects a shape of an area of the first layer.

9. (Currently Amended) The method of claim 8 wherein the detecting comprises detecting electrons reflected or scattered from the area of the first layer.

10. (Original) The method of claim 6 further comprising a preliminary step of charging the second feature.

11 - 18. (Cancelled)